Indian Bend Wash Area
31216

84-04

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 9

In the Matter of	)	
	)	ORDER
BECKMAN INSTRUMENTS, INC.	)	
	)	
Respondent.	)	Docket No. 84-04
	)	
PROCEEDING UNDER SECTION 3013 of the RESOURCE CONSERVATION AND RECOVERY ACT (42 USC §6934)	)	

JURISDICTION

The following Order is issued on this date to Beckman Instruments Inc. (Respondent), pursuant to the authority vested in the Administrator of the United States Environmental Protection Agency (EPA) under §3013 of the Resource Conservation and Recovery Act (RCRA); 42 USC §6934, and redelegated to the Director, Toxics and Waste Management Division, EPA, Region 9.

FINDINGS OF FACT

1. The Indian Bend Wash site encompasses approximately 12 square miles in parts of Scottsdale, Tempe, and Phoenix, Arizona. The Indian Bend Wash site is bounded by the following streets: Chaparral Road to the north, Pima Road

to the east, Apache Boulevard to the south, and Scottsdale Road to the west. Beneath the Indian Bend Wash site is the Salt River Ground Water Basin, which is the only source of drinking water for more than 350,000 people.

2. Between July 17, 1970, and April 1, 1982, Respondent operated a facility located at 350 North Hayden Road, Scottsdale, Arizona. The facility was located within the Indian Bend Wash site.

3. From the 1960's to the present, L.D. Hancock Company owned the property on which Respondent formerly operated a facility. On May 14 and June 20, 1984, L.D. Hancock Company responded to EPA requests for information pursuant to §3007(a) of RCRA, 42 USC §6927(a) and §104(e) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC §9604(e). It its responses, L.D. Hancock stated that it has no information or knowledge as to the nature of any lessee's business, including that of Respondent.

4. Subsequent to the Respondent ceasing operations at 350 North Hayden Road, Scottsdale, Comtech Data Corporation began operating a new facility at the same address. At that time, Beckman's system of pipes, tanks, and drains were were dismantled or modified. At its new facility, Comtech designs, manufactures, and tests electronic equipment used in satellite communications. The Comtech facility has been in continuous operation at 350 North Hayden Road, Scottsdale, from 1982 to the present. On May 23, 1984, Comtech Data Corporation responded to an EPA information request pursuant to §3007(a) of RCRA and §104(e) of CERCLA. Comtech

Data Corporation stated and provided records documenting that all wastes generated by its new facility are disposed of off-site or to the municipal sewage system.

5. At 350 North Hayden Road, Scottsdale, Respondent produced gas discharge displays and used various organic solvents including trichloroethylene (TCE) in its manufacturing process.

6. On August 18, 1980, Respondent notified EPA, pursuant to §3010 of RCRA, 42 USC §6930, that it generated, treated, stored, and/or disposed of hazardous waste at its former facility. Respondent reported that among the hazardous wastes generated on-site were spent halogenated and non-halogenated solvents, including TCE, acetone, methanol, methylbenzene, and methylchloroform. Respondent did not submit a Part A Application pursuant to §3005 of RCRA, 42 USC §6925. On November 26, 1980, Respondent reported that all waste treatment and storage processes which might have required a permit had been eliminated or modified.

7. On July 23, 1982, EPA issued Respondent a request for information pursuant to §3007(a) of RCRA and §104(e) of CERCLA. On September 20, 1982, Respondent submitted to EPA information which documents that halogenated and non-halogenated solvents including chloroethene, toluene, freons, alcohols, and TCE were used at its facility. Respondent also submitted information which documents that on-site disposal of hazardous waste in quantities exceeding 55 gallons took place up to November, 1980. This information also indicates that specific

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types and amounts of waste, and dates of disposal, are unknown.

8. On May 16, 1983, an EPA inspector interviewed Mr. James Handzel, a former employee of Beckman Instruments. Mr. Handzel stated that he was the Plant Engineer for Beckman Instruments at 350 North Hayden Road from approximately 1977 to October, 1981. Mr. Handzel informed the EPA inspector that between 1977 and 1979, wastes including TCE, oil, and other solvents were routinely disposed of in a natural depression located in the northwest corner of Beckman's facility.

9. In October, 1981, the City of Phoenix discovered TCE contamination in two of its municipal drinking water wells at the Indian Bend Wash site. Further sampling and analytical work conducted by State and local agencies detected TCE in six additional drinking water and irrigation wells in concentrations up to 1000 parts per billion (ppb). The State of Arizona has established an action level of 5 ppb for TCE found in drinking water. Using this guideline, drinking water wells in which the concentration of TCE exceeds 5 ppb have been closed or converted to irrigation wells, or the water from the wells has been blended to reduce TCE concentrations below 5 ppb.

10. In September, 1982, EPA contractors conducted a contamination verification survey which included sampling and analysis of 20 wells at the Indian Bend Wash site. This survey revealed that 9 drinking water and irrigation wells contained TCE in excess of 5 ppb and as high as 660 ppb. Other organic

solvents detected in these wells include perchloroethylene (PCE), dichloroethylene (DCE), and chloroform. Analytical results from three of the wells sampled in the vicinity of Beckman Instruments are presented below:

a. Salt River Project (SRP) irrigation well no. 22.5E, 6N located approximately 1 mile northwest of the northwest perimeter of Beckman's former facility.

Constituents	Concentration (ppb)
TCE	130 - 330
1,-1-DCE	Up to 10
PCE	16-23
Chloroform	9

b. Salt River Project well no. 22.5E, 5.5N located approximately one-half mile northwest of the northwest perimeter of Beckman's former facility.

Constituents	Concentration (ppb)
TCE	22

c. City of Tempe well no. 6 located approximately 500 feet southwest of the southwest perimeter of Beckman's former facility.

Constituents	Concentration (ppb)
TCE	7

11. In May, 1983, EPA contractors sampled six additional wells in the Indian Bend Wash Site. The analytical result from City of Scottsdale well no. 25 located approximately 500 feet northwest of the northwest perimeter of Beckman's former facility is presented below:

Constituent	Concentration (ppb)
TCE	7

12. TCE is used primarily as a metal degreasing agent and is slightly soluble in water. TCE is an anesthetic which depresses the central nervous system. TCE has been demonstrated to cause cancer in animals, and has been shown to be mutagenic in certain tests involving microbes and animals. Short term exposure to TCE has been reported to produce liver and kidney damage and central nervous system disturbances in mammals, including humans.

13. Certain halogenated and non-halogenated spent solvents, including TCE, PCE, DCE, and chloroform, are hazardous wastes as defined by §1004(5) of RCRA, 42 USC §6903(5). Certain halogenated and non-halogenated spent solvents, including TCE, are listed as hazardous wastes at 40 CFR §261.31.

14. In setting ambient water quality criteria, EPA has estimated that ingestion of water containing 2.7 parts per billion (ppb) of TCE would be expected to produce one additional case of cancer in a population of 1,000,000 [45 FR 79341, November 28, 1980].

15. At the Indian Bend Wash site, the existence of a hydraulic gradient from the upper alluvial aquifer to the lower regional aquifer is demonstrated by the occurrence of cascading wells. For example, the contaminated SRP well No. 23.6E, 6N has cascading water entering the well from the upper alluvial aquifer at an estimated rate of 50-100 gallons per minute. This may be a pathway by which con-

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taminated groundwater from the upper alluvial aquifer can enter the lower regional aquifer. Other possible pathways for contaminant migration to the lower regional aquifer could be gravel packs of wells, complex downward movement through confining layers (aquitards), and lateral movement through permeable zones.

DETERMINATION

Based upon the foregoing Findings of Fact, the Director, Toxics and Waste Management Division, EPA, Region 9 has determined that the presence at or release of hazardous waste from Respondent's facility at 350 North Hayden Road may present a substantial hazard to human health or the environment.

EPA has also determined that Respondent's facility at 350 North Hayden Road is no longer in operation.

EPA has further determined that Respondent is the most recent previous owner or operator of a facility or site at which hazardous waste has been stored, treated, or disposed of who could reasonably be expected to have actual knowledge to carry out the requirements of the Order (below) under §3013(b) of RCRA, 42 USC §6934(b). Respondent is therefore responsible for conducting the actions ordered herein, which are necessary to ascertain the nature and extent of the hazard.

ORDER

Based upon the foregoing Determinations and Findings of Fact, Respondent, Beckman Instruments, Inc., is hereby Ordered pursuant to §3013 of RCRA, 42 USC §6934, to submit to EPA a proposal for the monitoring, testing, analysis, and reporting with respect to the presence at or release of hazardous waste from its former

facility, and shall implement such proposal, once approved by EPA. The purpose of this proposal is to ascertain the nature and extent of the hazard to human health or the environment presented by the disposal or release of the hazardous waste described in the Findings of Fact. The proposal shall include, but shall not be limited to:

1. A plan to determine the physical characteristics of the upper alluvial and lower regional aquifers, including but not limited to:
   a. lithology;
   b. transmissivities;
   c. storativities (specific yield);
   d. hydraulic conductivities (horizontal and vertical);
   e. saturated thicknesses;
   f. porosities and effective porosities;
   g. geologic descriptions;
   h. hydraulic gradients in the perched and regional aquifers;
   i. fluid velocities.
2. A plan to: a) describe the hydrogeology of the Beckman site and the affected surrounding area, sufficient to characterize the aereal and vertical extent of contamination in the upper alluvial and lower regional aquifers; b) determine possible mechanisms of contaminant transport through and between the two aquifers; and c) determine past and present groundwater flow directions in both aquifer systems.
3. A plan to determine the surface hydrology of the Beckman site and any potential for migration of contaminants off-site through surface water.

4. A plan to determine the vertical and areal distribution of contaminants in soils on the facility.

5. A plan to determine the recharge and discharge areas of the upper alluvial and lower regional aquifers.

6. A plan specifying analytical and quality control protocols for the sampling and analysis program, including:

   a. adequate sample identification;

   b. sample preservation techniques;

   c. chain of custody procedures;

   d. use of EPA approved analytical methods;

   e. identification of person(s) conducting the sampling.

7. A plan specifying the precautions which will be taken to ensure the health and welfare of individuals associated with this project.

8. The work included in the proposal must be conducted consistent with the EPA Workplan (hereinafter "Workplan) for the Indian Bend Wash Remedial Investigation and Feasibility Study (hereinafter "RI/FS") prepared by CH_2M HILL under work assignment number 95.9L20.0. The proposal must include, at a minimum, construction of five (5) groundwater monitoring wells during Phase I of the RI/FS. The proposed locations and depths of the monitoring wells are shown on Plate 3 (SW 1/4 of 1N4E - 1 and E 1/2 of 1N4E - 2) of the Workplan. The five wells should include three (3) upper alluvial wells, one (1) middle alluvial well, and one (1) lower alluvial well. The proposed construction of the monitoring wells should follow the specifications outlined in Appendix B of the Workplan. Respondent must conduct quarterly water

quality sampling and analyses of the five monitoring wells as specified in the Workplan. Respondent may be required to construct additional groundwater monitoring wells during Phase II of the RI/FS and perform work which is not specified in the Workplan. During Phase II of the RI/FS, Respondent must conduct sub-surface soil borings to determine the vertical and areal extent of contamination.

9. The proposal shall specify an expeditious and reasonable schedule for the implementation and completion of the various components. The proposal shall provide for periodic reports to EPA on the progress of the work required by this Order.

10 Respondent shall make available to EPA upon request a split of all samples taken pursuant to this Order. Identification and maintenance of all split samples shall be in accordance with the protocols specified in Paragraph 6 of this Order.

11. It is the responsibility of Respondent to obtain the access to and use of any on or off-site areas. Respondent shall assume full responsibility for any claims arising from the activities conducted by Respondent or its representatives or consultants on third-party property in connection with this Order. Respondent will provide access to the site for EPA employees, contractors or consultants at all reasonable times and will permit such persons to be present and move freely in the area where any work is being conducted pursuant to this Order.

12. Respondent shall provide EPA with copies of all charts, maps, letters, memoranda, invoices, shipping manifests or other records or documents relevant to the subject matter of this

Order as requested by EPA or which are required by RCRA, or any other applicable law, to be provided to EPA.

13. All data, unless otherwise exempted by EPA, shall be reported to EPA immediately and shall be in a forma to be specified by EPA. Detection limits are to be specified where applicable.

14. Neither the United States Government nor any agency thereof shall be liable for any injuries or damages to persons or property resulting from acts or omissions of Beckman Instruments, Inc., its officers, directors, employees, agents, receivers, trustees, successors, or assigns, or of any persons, including but not limited to firms, corporations, subsidiaries, contractors or consultants, in carrying out activities pursuant to this Order, nor shall the United States Government or any agency thereof be held out as a party to any contract entered into by Respondent in carrying out activities pursuant to this order.

The proposal ordered herein must be submitted by Respondent to Karen O'Regan, Environmental Protection Agency, at the address listed below, within thirty (30) days of the date of this Order. The proposal shall be subject to review, modification and approval by EPA.

Respondent shall complete the installation of all Phase I monitoring wells [See paragraph 8, above] within ninety (90) days of Respondent's receipt of EPA's approval of the proposal. Water quality sampling and analyses shall be conducted in accordance with the schedule specified in the Indian Bend Wash RI/FS Workplan.

Respondent shall submit to EPA a written report describing the data collected and findings made within one hundred and twenty (120) days after Respondent's receipt of EPA approval of the proposal. Respondent shall immediately forward all data to EPA upon Respondent's receipt of data.

OPPORTUNITY TO CONFER

Under the provisions of the Act, Respondent is entitled to request a conference with EPA. At any conference held pursuant to Respondent's request, Respondent may appear in person and with counsel or other representatives for the purpose of presenting any objections, defenses or contentions which Respondent may have regarding this Order. Any objection, defense or contention which Respondent may make should be in writing, signed and forwarded to the contact person named below on or before the date on which you are required to submit the proposal. The opportunity to confer does not alter the requirement for submittal of the plan within fifteen days of the effective date of this Order.

LIABILITY

If EPA determines that Respondent is not able to conduct the activities required by the Order herein or if activities specified in the EPA-approved proposal are not conducted to EPA's satisfaction, then EPA may conduct such actions deemed reasonable by EPA to ascertain the nature and extent of the hazard. Respondent may then be ordered to reimburse EPA for the costs of such activity pursuant to §3013(d) of RCRA, 42 USC §6934(d). In the event Respondent fails or refuses to comply with the terms and provisions of this Order, EPA may commence a civil action, pursuant to §3013(e) of RCRA, 42 USC §6934(e) or

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any other appropriate law, to require compliance with such Order and to assess civil penalties not to exceed $5,000 for each day that Respondent fails or refuses to comply.

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It is so ordered on this 13 day of July, 1984.

This Order shall become effective immediately.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

By: Harry Seraydarian

HARRY SERAYDARIAN
DIRECTOR, TOXICS AND WASTE MANAGEMENT DIVISION

Co tact person:

Karen O'Regan (T-4-2)

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